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NEWS

Transforming climate resilience in tea production

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The Tea-CUP project is changing how climate services are delivered by developing actionable information to address the challenges of climate change within the tea industry, informing adaptation measures and decision-making.

Tea is one of the world's most widely consumed drinks, second only to water, with China being the world's largest tea-producing country, accounting for more than 43% of global tea production. The quality and quantity of tea production is highly sensitive to variations in local weather patterns, and climate change is posing significant challenges to the tea industry in China, the UK and beyond.

In the Tea-CUP project (Co-developing Useful Predictions) scientists from the Met Office and China have been working with tea experts and local farmers in Yunnan Province to understand what seasonal and climate information they need to inform adaptation measures. The projects inclusive approach ensures that services are tailored to the specific needs of users, considering factors beyond scientific evidence, such as cultural values and social norms. This new joint approach helps tea farmers adapt to climate challenges by providing timely and relevant climate information.

The progress of the Tea-CUP project is described in a paper published in *Advances in Atmospheric Sciences*. Lead author, Dr Stacey New, an applied climate scientist at the Met Office, said; "The collaborative approach between the UK and China has demonstrated that integrating scientific knowledge with local expertise has the potential to enhance the resilience of the tea sector to climate variability and change, and develop more effective climate adaptation strategies for the tea industry".

Tea Garden, Baoshan, Yunnan, China.

Professor Shaojuan Li, another member of the research team, from Yunnan University of Finance and Economics said; “In Yunnan, we have gathered multiple types of data on various timescales, such as tea yield, plantation area, tea price, temperature and precipitation, and used them to construct models that reveal the interactive effects of climate variation on tea production”.

The project team have used local information to help establish how specific rainfall measures impact tea growth, quality and price, and the findings are being used to investigate whether there is seasonal forecast skill in predicting these metrics in tea-growing areas. This information could enable tea growers to plan for the coming months as well as adapt to future climate scenarios

The Tea-CUP project is part of the Climate Science for Service Partnership China (CSSP China), launched in 2014, CSSP China is a project stimulating scientific collaboration between research institutes in the UK and China. It focuses on producing world-leading scientific research that is fundamental to the development of climate services that support climate-resilient economic development and social welfare around the world.

The CSSP China project is part of our Weather and Climate Science for Service Partnership (WCSSP) programme.

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